

In the claims

1-86. (canceled)

87. (Currently amended) An animal feed composition comprising a particle, wherein such particle comprises alginate[[,]] ~~a non-digestible polymer, and an emulsifier~~ a starch-emulsifier complex, and wherein the alginate comprises from about 0.5 to about 2.0 percent by wet weight of the particle, ~~the total amount of polymer comprises from about 0.1 to about 6 percent by wet weight of the particle,~~ and the emulsifier comprises a ratio to the ~~non-digestible polymer~~ starch from about 1:10 to about 10:1.

88. (Previously presented) The composition of claim 87, wherein the alginate comprises from about 0.5 to about 1.0 percent by wet weight of the particle.

89. (Previously presented) The composition of claim 88, wherein the alginate comprises about 1.0 percent by wet weight of the particle.

90. (Currently amended) The composition of claim 87, wherein the ~~non-digestible polymer~~ starch comprises from about 1.0 to about 4.0 percent by wet weight of the particle.

91. (Currently amended) The composition of claim 90, wherein the ~~non-digestible polymer~~ starch comprises about 2.0 percent by wet weight of the particle.

92. (Currently amended) The composition of claim 87, wherein the emulsifier and ~~non-digestible polymer~~ starch are present in an emulsifier to ~~polymer~~ starch ratio from about 1:5 to about 5:1.

93. (Currently amended) The composition of claim 92, wherein the emulsifier and ~~non-digestible polymer~~ starch are present in an emulsifier to ~~polymer~~ starch ratio from about 1:4 to about 2:1.

94. (Currently amended) The composition of claim 92, wherein the emulsifier and ~~non-digestible polymer~~ starch are present in an emulsifier to ~~polymer~~ starch ratio of about 1:2.

95. (Currently amended) The composition of claim 87, wherein the starch ~~non-digestible polymer~~ is selected from the group consisting of ~~chosen from poly(vinylpyrrolidone), poly(vinylalcohol), poly(ethylene oxide), cellulose, cellulose derivatives, silicone, poly(hydroxyethylmethacrylate), modified~~

starch and starch derivatives, high amylase amylose starch, ~~chitosan, xanthan gum, carrageenan, carboxymethyl cellulose, methylcellulose, guar gum, gum Arabic, glycogen, locust bean gum, acacia gum,~~ and combinations thereof, wherein dissolved starch granules are formed when the starch complexes with the emulsifier in an alkali solution.

96. (Previously presented) The composition of claim 87, further comprising a bioactive agent or agents.

97. (Previously presented) The composition of claim 96, wherein the bioactive agent undergoes controlled release.

98. (Previously presented) The composition of claim 96, wherein the bioactive agent or agents are chosen from microbes, proteins, peptides, nucleic acids, hormones, drugs, antibiotics, enzymes, minerals, vitamins, antibodies, immunogens, microstructures, and nanostructures.

99. (Previously presented) The composition of claim 98, wherein the microbe is chosen from bacteria, yeast, and viruses.

100. (Currently amended) The composition of claim 99, wherein the microbe is chosen from *Bacillus* spp., ~~*Bacillus licheniformis*, *Bacillus subtilis*, *Lactobacillus* spp., *L. bulgaricus*, *L. helveticus*, *L. plantarum*, *L. paracasei*, *L. casei*, *L. rhamnosus*, *Lactococcus* spp., *L. lactis*, *Alteromonas* spp., *A. media*, *Carnobacterium* spp., *C. divergens*, *Vibrio* spp., *V. alginolyticus*, *Pseudomonas* spp., *P. fluorescens*, *Streptococcus* spp., *S. lactis*, *S. thermophilus*, *Pseudoalteromonas* spp., *P. undina*, *Saccharomyces* spp., *S. cerevisiae*, *S. exiguus*, *Phaffia* spp., *P. rhodozyma*, *Pichia* spp., *P. pastoris*, *Kluyveromyces* spp., *K. aestuarii*, *K. marxianus*, and *K. yarrowii*.~~

101. (Withdrawn) The composition of claim 98, wherein the protein is chosen from somatostatin, somatostatin derivatives, growth hormones, prolactin, adrenocorticotrophic hormone (ACTH), melanocyte stimulating hormone (MSH), thyroid hormone releasing hormone (TRH), TRH salts, TRH derivatives, thyroid stimulating hormone (TSH), luteinizing hormone (LH), oxytocin, calcitonin, gastrin, secretin, pancreaticozym, cholecystokinin, interleukins, thymopoietin, thymosin, thymostimulin, thymic factors, bombesin, neurotensin, lysozyme, protein synthesis stimulating peptides, vasoactive intestinal polypeptide (VIP), growth hormone releasing factor (GRF), and somatocrinin.

102. (Withdrawn) The composition of claim 98, wherein the antibiotic is chosen from gentamicin, tetracycline, oxytetracycline, doxycycline, ampicillin, ticarcillin, cephalothin, cephaloridine, cefotiam, cefsulodin, cefmenoxime, cefmetazole, cefazolin, cefotaxime, cefoperazone, ceftizoxime, moxolactam, latamoxef, thienamycin, sulfazecin, and azthreonam.

103. (Currently amended) The composition of claim 87, wherein the composition is further processes to provide is-in a dry form.

104. (Previously presented) The composition of claim 87, wherein the composition is in a wet form.

105. (Previously presented) The composition of claim 87, wherein the particle size ranges from about 20 μm to about 150 μm .

106. (Previously presented) The composition of claim 87, wherein the particle size ranges from about 100 μm to about 1 cm.

107. (Previously presented) The composition of claim 87, further comprising one or more bioattractant.

108. (Previously presented) The composition of claim 87, further comprising nutrients.

109. (Previously presented) The composition of claim 87, wherein the animal is human.

110. (Previously presented) The composition of claim 87, wherein the animal is a domestic animal.

111. (Previously presented) The composition of claim 87, wherein the animal is an aquatic animal.

112. (Previously presented) The composition of claim 111, wherein the animal is a fish.

113. (Previously presented) The composition of claim 111, wherein the animal is a mollusk.

114. (Previously presented) The composition of claim 111, where in the animal is a shrimp.

115. (Previously presented) The composition of claim 111, wherein the animal is a rotifer.

116. (Previously presented) The composition of claim 111, wherein the animal is Artemia.

117. (Withdrawn and currently amended) A method of producing an animal feed composition comprising a particle, wherein such method comprises:

- (a) dissolving a ~~non-digestible polymer~~ starch in an alkaline solution,
- (b) adding an emulsifier to the starch and alkaline solution for a sufficient time to form a starch-emulsifier complex;
- (c) neutralizing the solution comprising the formed starch-emulsifier complex;
- (d) adding alginate to the solution containing the starch-emulsifier complex;
- (e) adding a bioactive agent; and
- (f) atomizing the slurry resulting from (a)-(e), wherein the atomization produces a particle between about 10 μm and about 10,000 μm in size, and wherein the bioactive agent is microbound, viable, and bioavailable in a timed-release manner.

118. (Withdrawn and currently amended) A method of delivery of a bioactive agent or agents comprising providing a particle to an animal, such particle comprising alginate, a ~~non-digestible polymer~~ starch-[[, an]] emulsifier complex, and one or more bioactive agent, wherein providing the particle delivers the particle to the animal.

119. (Withdrawn) A method of delivering a particle produced by the method of claim 117 to an aquatic animal comprising producing the particle and feeding the particle to an aquatic animal, wherein the bioactive agent has a bioactive effect on the animal in vivo.

120. (Withdrawn) The method of claim 117, wherein the bioactive agent is delivered to an aquatic animal.

121. (Currently amended) A particle comprising alginate, ~~a non-digestible polymer,~~ and an a starch-emulsifier complex.

122. (Previously presented) The particle of claim 121 further comprising one or more bioactive agent.

123. (New) The composition of claim 99, wherein the microbe is chosen from Bacillus licheniformis, Bacillus subtilis, L. bulgaricus, L. helveticus, L. plantarum, L. paracasei, L. casei, L. rhamnosus, L. lactis, A. media, C. divergens, V. alginolyticus, P. fluorescens, S. lactis, S. thermophilus, P. undina, S. cerevisiae, S. exiguus, P. rhodozoma, P. pastoris, K. aestuarii, K. marxianus, and K. yarrowii.